BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

FILED
9-23-16
04:59 PM

Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements and Establish Annual Local and Flexible Procurement Obligations for the 2016 and 2017 Compliance Years.	R.14-10-010 (Filed October 16, 2014)

COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON ASSIGNED COMMISSIONER AND ADMINISTRATIVE LAW JUDGE'S PHASE 3 SCOPING MEMO AND RULING

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September 23, 2016

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The California Energy Storage Alliance ("CESA")[1] hereby submit these comments on the *Assigned Commissioner and Administrative Law Judge's Phase 3 Scoping Memo and Ruling,* issued by Assigned Commissioner Michael Florio and Administrative Law Judge Kevin R. Dudney on September 13, 2016 ("Scoping Memo").

I. INTRODUCTION

In these comments, CESA stresses the need to evaluate how the Resource Adequacy ("RA") program affects the state's energy resource portfolio mix, how the development of a

[1] 1 Energy Systems Inc., Adara Power, Advanced Microgrid Solutions, AES Energy Storage, Amber Kinetics, Aquion Energy, Bright Energy Storage Technologies, Brookfield, California Environmental Associates, Consolidated Edison Development, Inc., Cumulus Energy Storage, Customized Energy Solutions, Demand Energy, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, Electric Motor Werks, Inc., ElectrIQ Power, ELSYS Inc., Energy Storage Systems Inc., Enphase Energy, GE Energy Storage, Geli, Gordon & Rees, Green Charge Networks, Greensmith Energy, Gridscape Solutions, Gridtential Energy, Inc., Hitachi Chemical Co., Ice Energy, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Invenergy LLC, Johnson Controls, K&L Gates, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, Mercedes-Benz Research & Development North America, Nature & PeopleFirst, NEC Energy Solutions, Inc., NextEra Energy Resources, NGK Insulators, Ltd., NRG Energy LLC, OutBack Power Technologies, Parker Hannifin Corporation, Powertree Services Inc., Qnovo, Recurrent Energy, RES Americas Inc., Saft America Inc., Samsung SDI, Sharp Electronics Corporation, Skylar Capital Management, SolarCity, Southwest Generation, Sovereign Energy, Stem, SunPower Corporation, Sunrun, Swell Energy, Trina Energy Storage, Tri-Technic, UniEnergy Technologies, Wellhead Electric, Younicos. The views expressed in this Response are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. (http://storagealliance.org).

durable flexible product will provide long-term reliability assurances and market signals and certainty, and how multi-year contracts warrant high priority consideration. CESA also urges the Commission to expeditiously implement major RA reforms for the 2017 RA year, given their significant impact on a number of important ongoing and upcoming Commission proceedings. CESA broadly supports the Scoping Memo as written, but recommends several additional study questions and certain other modest changes.

II. ADDITIONAL STUDY QUESTIONS ON THE EFFECTS OF MARKET RULES ON HOW GRID RESOURCES ARE DESIGNED, MAINTAINED, OPERATED, OR UPGRADED ARE NEEDED.

The Scoping Memo raises appropriate questions about how the grid's needs are being met. The Scoping Memo should expand this list of questions to better understand how the Commission's policies and rules direct actions by third-party or merchant actors. Specifically, the Scoping Memo should request responses to the following additional questions:

Do economic signals direct actions with a resource, including actions such as upgrading resources to be more flexible, planning maintenance actions for different times of year, and re-contracting to allow for new or different resource scheduling, operation, or curtailment? How else might RA designs signal and inform new project development, repowering, or other 'merchant' actions?

- Are spot energy market payments sufficient to guarantee upward, downward ramping bids and peak period bids?
- What are the staff experience, make-up and size of utility "RA teams," including how many staff work on managing the monthly portfolio contracting and showing? How have these RA teams evolved over the years, including when the Flex RA concept was implemented? Are these RA teams capable of managing

additional RA contracting or portofolio management duties for RA if an additional 'product', such as Downward Flex RA, is established? Why or why not?

Concerns about complexity in RA are likely overstated and should not *de facto* re-direct or limit RA designs and products unless the complexity is unworkable. If additional complexity yields more efficient portfolios, the benefits of some incremental complexity should be worth the investment. CESA anticipates that a high level of complexity will be unavoidable to ensure reliability for large portions of the grid of the seventh largest economy in the world as it undergoes changes such as large baseload generator retirements, increases in penetrations of variable energy resource and distributed generation, and changes in climate and hydro conditions.

CESA maintains that foreseen complexity can be managed, in large part because Load Serving Entities have large and sophisticated procurement groups with teams of people engaged in contracting, negotiating, showing, scheduling, operating, and settling resources. Third-party experts, and the energy industry in general, also provide capacity contracting services and respond to Commission direction on RA rules. RA rules may also influence out-of-state resources as the CAISO works to develop Regional RA rules in tandem with the Commission. Proposals for over-simplified RA rules, including Flex RA rules, will not address the core purpose of RA. Instead, simple RA rules may result in an insufficient generation resource fleet, under the assumption that some issues can be resolved through grid operations or through patch fixes, e.g. 'cures' to the portfolio.

CESA believes the approach of hoping that downward flexibility needs will be addressed without explicit contractual RA control would risk repetition of past mistakes during which

reliability was compromised because generators did not participate appropriately in spot energy markets. The implications if this approach were taken with system or local capacity, assuming capacity would participate correctly, would be very risky. Due to Renewables Portfolio Standard ("RPS") procurement and other policy factors, the grid's needs and generation fleet are changing, and the RA program will need to evolve accordingly to consider downward flexibility. There is no guarantee that downward flexibility will be sufficient in the future simply because it has been so in the past.

Assertions that downward flexible needs are 'just operational' do not reflect an understanding of the needs of the grid in the future. The 'right' RA product requirements – including flex down capability – will influence the portfolio in the near, medium, and long-term. Capacity values are a key revenue source for many grid resources. These resources can adjust their capabilities, plan upgrades, bid differently, and take many actions to fashion their resource to provide services needed by the grid. For example, if a resource operator knows that it can qualify for a higher value planning capacity product with a modest change, economic interest will direct that resource to make such a change. Medium-term, resources may invest in key capabilities to position themselves to provide more valuable RA services. Long-term, signals for the 'right' types of planning capacity will without question influence new capacity decisions for the state.

III. EFFECTIVE LOAD CARRYING CAPACITY STUDIES SHOULD INCLUDE SOLAR PLUS ENERGY STORAGE AND A WIND PLUS ENERGY STORAGE 'COUNTING' VALUES.

In cases where Effective Load Carrying Capacity ("ELCC") values change the counting of an RA resource in material ways, CESA strongly recommends that the Commission offer a pathway for improving the counted capacity. ELCC studies should thus include Solar plus

Energy Storage and Wind plus Energy Storage values, so that resources can decide whether adding storage (with appropriate dispatch plans for the energy storage device) should be pursued.[2] Past ELCC studies by the CAISO have shown that, in some cases, a relatively small window of low generation by a renewable resource can lead to much lower ELCC 'counting' value. As such, a resource augmented with a modest amount of energy storage could greatly improve its counting value. CESA recommends the Commission review ELCC studies for solar and for wind resources and determine a reasonable level of energy storage that should be added. A study of resource ELCC with the added increment of energy storage should then be used to establish counts for 'storage plus' resources. Functionally, in cases where a resource adopts a 'plus storage' ELCC, the storage device should not have its own stand-alone capacity but should be 'deemed' as part of the solar system, boosting the ELCC. Any new 'storage plus' ELCC values will provide important optionality to resources facing a major cut to their counted capacity. The Commission may wish to consider a shorter-duration energy storage plus solar and wind and a longer-duration Solar plus Energy Storage and Wind plus Energy Storage, so that resources have more choices in how much energy storage to add. Longer-duration energy storage services may provide different solution capabilities to flexibility needs in some instances, so considering both shorter and longer duration options is reasonable.

IV. MULTI-YEAR RA RULES SHOULD BE DEVELOPED ASA HIGH COMMISSION PRIORITY.

CESA strongly supports the Scoping Memo's plan to review and consider multi-year RA contracting. The CPUC should differentiate *optional* utility contracting for multiple years from

[2] A recent NREL study highlights how major additions of energy storage to the grid will be needed under a high-solar 50% RPS portfolio. For RA purposes, this study highlights how solar plus energy storage may be an important tool in high RPS environments, justifying ELCC values for energy storage plus renewables. *Energy Storage Requirements for Achieving 50% Solar Photovoltaic Energy Penetration in California*, National Renewable Energy Laboratory, Denholm and Margolis, August, 2016.

required multi-year contracting. While the outcomes *may* be similar for each approach to multi-year contracting, only the 'required' path can guarantee a well-planned fleet. A required multi-year planning approach will thus better ensure the CAISO's reliability needs are met. A public reporting process on multi-year contract needs will also inform merchant resource decisions.

V. DECOUPLING FLEXIBLE AND STANDARD RESOURCE ADEQUACY 'COUNTING' SHOULD BE IN SCOPE FOR PHASE 3.

CESA supports the proposals by the California Large Energy Consumers Association, Joint Demand Response Parties, and Shell Energy North America to separate flexible and standard RA 'counting' requirements for the 2017 RA compliance year. The current coupling requires a Net Qualifying Capacity ("NQC") to receive an Effective Flexible Capacity ("EFC"), which cannot exceed the NQC. De-coupling these two measures, and thus unbundling the sale of System RA from Flex RA, can provide two significant benefits: (1) Allowing easier transactions with smaller resources; and (2) broadening the pool of Flex RA resources (including any related must-offer obligations) to include resources that do not seek to provide System RA services.

Unbundling these two RA capacity products would allow flexible resources to be more clearly and fully valued for providing increasingly critical ramping capabilities for the grid. A durable flexible product that compensates for downward flexibility-related benefits in capturing excess renewables will accurately reflect the value of energy storage resources. An important first step in this effort is to allow resources to receive an NQC different from and/or less than their EFC, and to decouple these two capacity measures. This differs from the concept of 'unbundling' which by some is defined as being able to sell a flexible and system attributes of a single unit of capacity to different buyers.

VI. CONCLUSION

CESA appreciates the opportunity to submit comments on the Scoping Memo, and looks forward to working with the Commission and parties on the further development of a durable and robust RA program.

Respectfully submitted,

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